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In fact Limulus seems to me to be a synthetic or comprehensive type, bearing the same relations to the Crustacea that Ceratodus does among the fishes, or Archæopteryx among the birds; and because Limulus has strong analogies to the Arachnida, we should not overlook its true affinities with the Branchiopodous Crustacea.

Limulus may, then, be regarded as a Crustacean with the carapace of Apus, bearing simple and compound eyes as in that Phyllopod, with the antennæ foot-like as in many Entomostraca, and the abdominal appendages truly crustaceous in their structure, while the circulatory system is not fundamentally unlike that of other Crustacea, but only more perfect, and the digestive system is throughout comparable with that of the normal Crustacea.

ON A REMARKABLE WASP'S NEST FOUND IN A STUMP, IN MARYLAND.*

BY P. R. UHLER.

The insects of the genus Polistes have not hitherto been reported to make nests of clay. All the North American species have been considered paper-nest-builders. Many species are known from the United States, Canada and the West Indies, and these are generally of a brown or yellow color, having spots or bands either lighter or darker.

In the present instance we have a dark brown species with narrow yellow bands across the abdomen, and with yellow feet, which builds a nest of clay in the form of a cylinder. In the stump of a decayed Liriodendron, found by O. N. Bryan, Esq., in Charles county, Maryland, a number of these insects had aggregated their cylinders. The stump was about two feet in diameter and the central cavity (which had been formed by the borings of large beetles) was five inches wide. In this, attached to the sides, sometimes lying flat in the grooves left by the beetles, or standing off at a considerable angle, and attached by their bases, were thirty-three of these peculiar structures. They were of a yellow clay, generally about half an inch in diameter, and varying in length from two to five inches. Sixteen of these were attached in one group projecting from the side of the cavity, and towards their outer ends were bent into a blunt curve; resembling a colony of the tubes of Serpula.

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* Read at the Portland Meeting of the Amer. Assoc. Adv. Sci.

The nest, or, more properly, receptacle for the egg and young, is constructed in this manner. The adult Polistes flies to an adjacent place where there is suitable wet clay, works this substance into an oval pellet and flies to the place where the building is to be made. The pellet is then laid obliquely and pressed down by the fore feet and head of the insect so as to cause it to adhere firmly to the surface on which it is building. This operation is repeated until it has formed a cylinder about one inch in length.

As it proceeds, it smooths the inside of the cylinder by working with its jaws and pushing the front of its flat head against the plastic clay. The first section being thus finished to its satisfaction it flies off to secure small spiders. It seizes a spider with its fore feet, stings it in just such a way as to paralyze, without destroying its life, and then deposits it in the bottom of the cylinder.

An egg is then laid beside the spider, and the wasp flies off to secure other spiders. This is continued until the cavity, which generally holds from twelve to fifteen of the smaller kinds, is full.

The wasp then proceeds to cover the open end with a cap of the same material as before, after which it adds other sections to the number of three or four, filling each with spiders, and depositing one egg in each. The young larva feeds on these paralyzed spiders, and, as it seems, requires from twelve to fifteen of them to nourish it until it is ready to become a pupa.

Unlike the species of Pelopæus, which also make clay nests, it does not nurse its young, but they are securely sealed up in the sections to feed themselves. When ready to come forth, the wasp gnaws a round hole in the wall of its cell, and flies forth as a perfect insect.

A similar, if not identical, species was very troublesome in Baltimore during the early part of last summer.

On the front walls of the Peabody Institute these wasps assembled in considerable numbers; and constructed their cells in the grooves of the joints of the marble. Their clay cylinders were so numerous as to greatly disfigure the marble and render it necessary to have the front of the Institute cleaned.